

Confidentiality Requested:

Yes  No

**KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

**Form must be Typed**

**Form must be Signed**

**All blanks must be Filled**

**WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	O'Brien Energy Resources Corp.
Well Name	KEYSTONE 4-4
Doc ID	1420458

Tops

Name	Top	Datum
Heebner	4424	-1768
Toronto	4452	-1796
Lansing	4572	-1916
Marmaton	5192	-2536
Cherokee	5362	-2706
Atoka	5614	-2958
Morrow	5668	-3012
Mississippian	5780	-3124
Basal Chester	5972	-3316
Ste. Genevieve	6011	-3355
St. Louis	6108	-3452
Spergen	6299	-3643





Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country Estates Road, Liberal KS 67901

**PRESSURE PUMPING**

**Job Log**

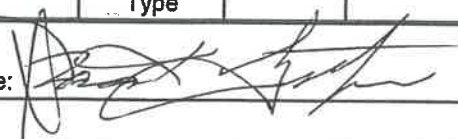
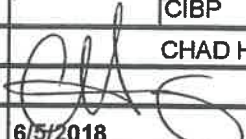

Customer:	O'Brien Energy	Cement Pump No.:	38119-19570 3 HRS	Operator TRK No.:	96815		
Address:	18 Congress St. Suite 207	Ticket #:	1718-15698 L	Bulk TRK No.:	19827-19808	27808-19883	
City, State, Zip:	Portsmouth NH 03801	Job Type:	Z42 Cement Surface Casing				
Service District:		Well Type:	OIL				
Well Name and No.:	Keystone 4-4	Well Location:	4,33,29	County:	Meade	State:	Ks

Type of Cmt	Sacks	Additives	Truck Loaded On		
A-CON	375	3%CaCl, 1/4#POLYFLAKE, .2%WCA-1	19827-19808	Front	Back
PREMIUM PLUS	150	2%CaCl, 1/4#POLYFLAKE	27808-19883	Front	Back
				Front	Back

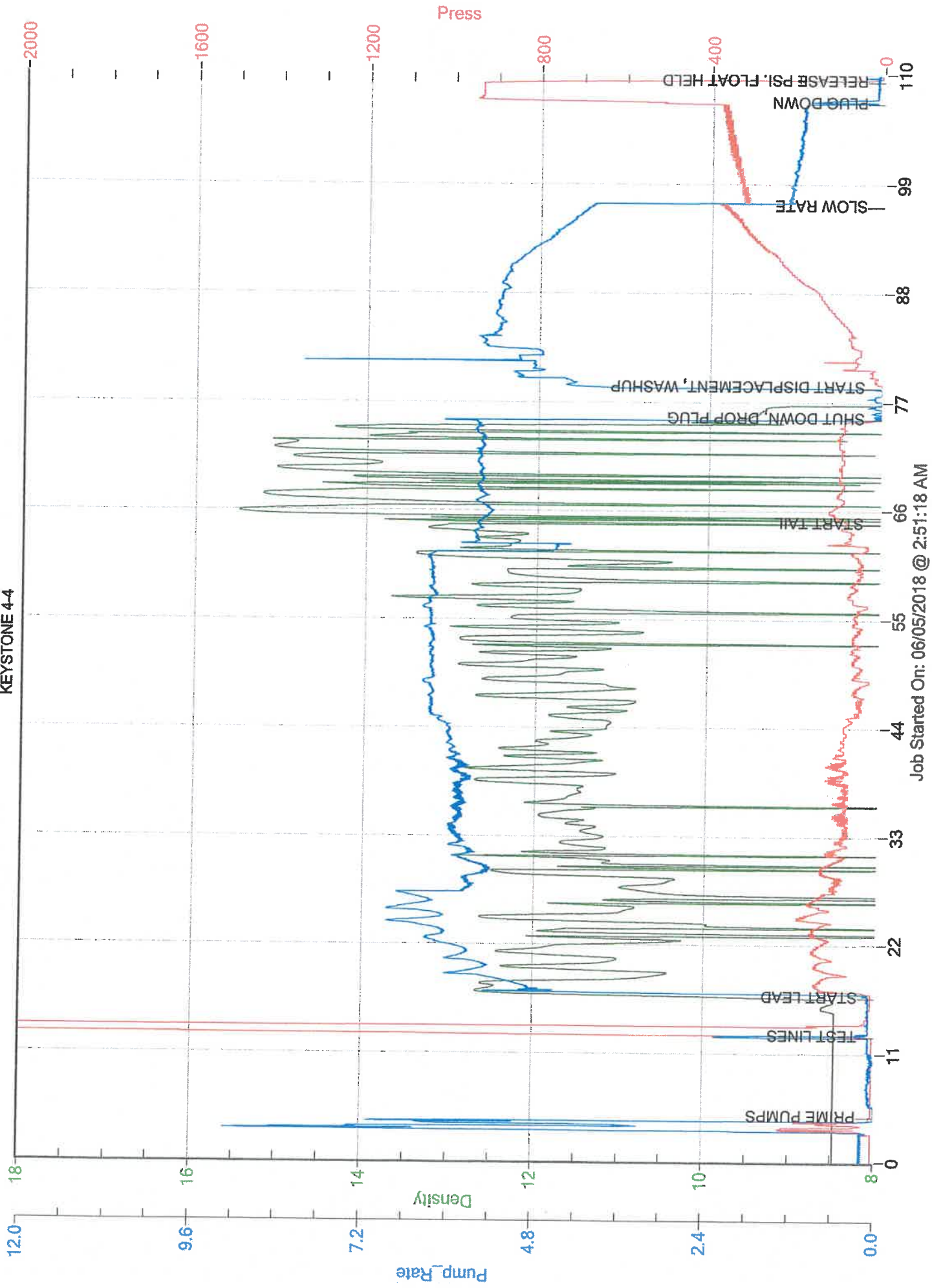
Lead/Tail:	Weight #1 Gal.	Cu/Ft/sk	Water Requirements	CU. FT.	Man Hours / Personnel	
<b>Lead:</b>	11.4	2.95	18.1	1106.25	Man Hours:	32
<b>Tail:</b>	14.8	1.34	6.33	201	# of Men on Job:	4

Time (am/pm)	(BPM)	Volume (BBLs)	Pumps		Pressure (PSI)		Description of Operation and Materials
			T	C	Tubing	Casing	
23:45							ON LOC, SAFTEY MTG, R.U.
3:03						2300	TEST LINES
3:06 AM	5					90	START LEAD @ 11.4#
3:48 AM	5.6	198				100	START TAIL @ 14.8#
4:07 AM		36					SHUT DOWN, DROP PLUG
4:09	5					60	START DISPLACEMENT
4:27	1.3	84				320	SLOW RATE
4:38 AM		94				400-940	PLUG DOWN
4:41						940-0	RELEASE PSI, FLOAT HELD
							JOB COMPLETE
							THANK YOU FOR YOUR BUSINESS!!!!

Size Hole	12 1/4	Depth	1541	TYPE	
Size & Wt. Csg.	8 5/8 24	Depth	New / Used	Packer	Depth
tbg.		Depth		Retainer	Depth
Top Plugs		Type		Perfs	CIBP

Customer Signature:  Basic Representative:  CHAD HINZ  
 Basic Signature:   
 Date of Service: 6/5/2018

# O BRIEN ENERGY KEYSTONE 4-4



Job Started On: 06/05/2018 @ 2:51:18 AM



Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country Estates Road, Liberal KS 67901

**Job Log**

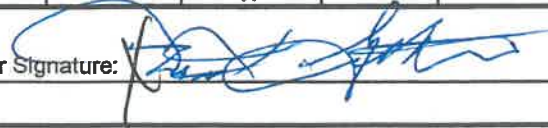
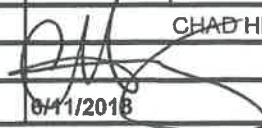
Customer:	O'Brien Energy	Cement Pump No.:	38119-19570 4 HRS	Operator TRK No.:	96815
Address:	18 Congress St. Suite 207	Ticket #:	1718-15755 L	Bulk TRK No.:	14355-37724
City, State, Zip:	Portsmouth NH 03801	Job Type:	Z42 Cement Production Casing		
Service District:		Well Type:	OIL		
Well Name and No.:	Keystone 4-4	Well Location:	4,33,29	County:	Meade
				State:	Ks

Type of Cmt	Sacks	Additives	Truck Loaded On		
60/40 POZ	100		14355-37724	Front	Back
AA-2	185	5%W60, 10%SALT, .6%C17, 1/4#DEFOAMER, 5#GILSONITE		Front	Back
				Front	Back

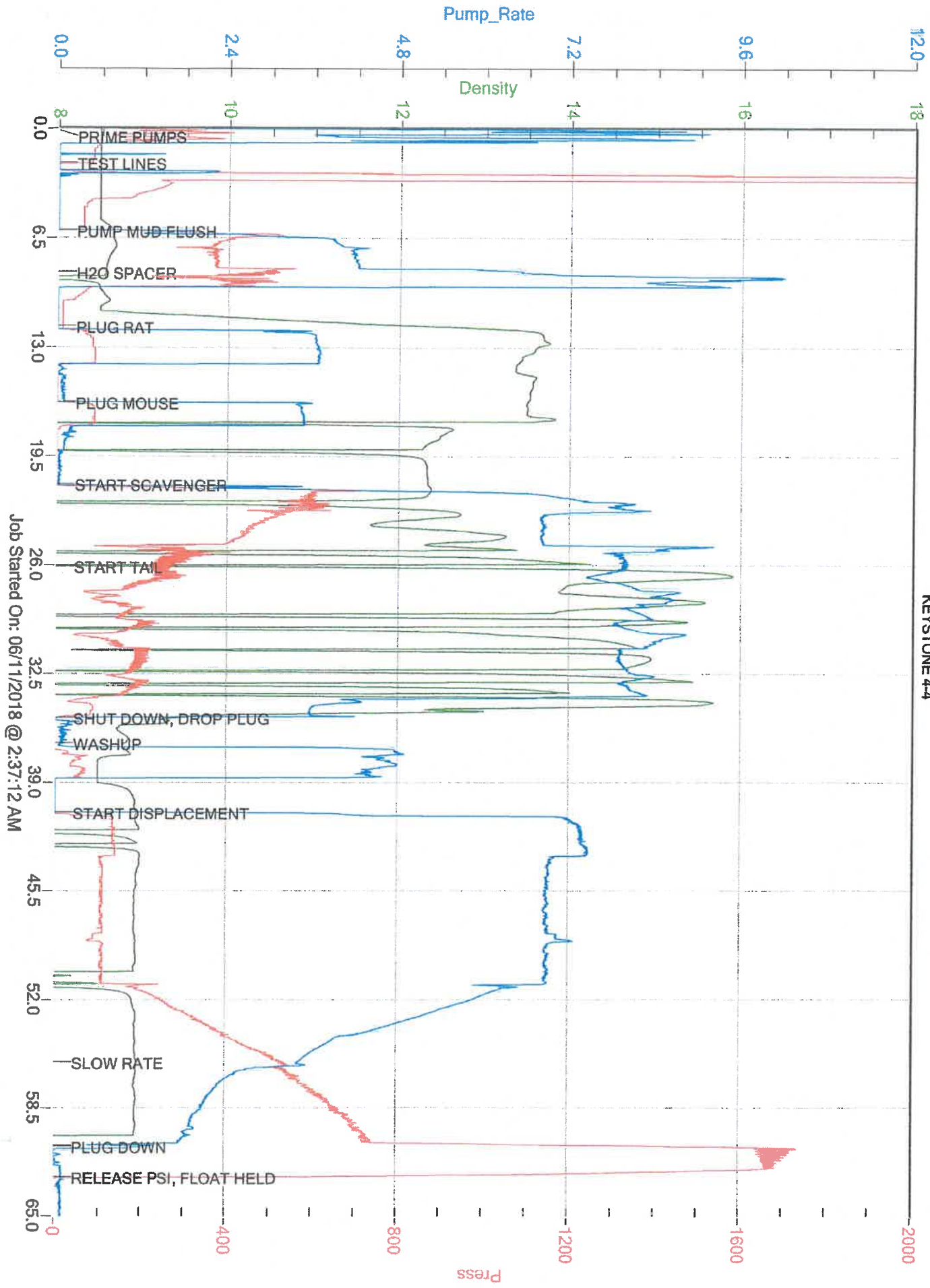
Lead/Tail:	Weight #1 Gal.	Cu/Ft/sk	Water Requirements	CU. FT.	Man Hours / Personnel	
<b>Lead:</b>	12	2.08	11.89	208	Man Hours:	15
<b>Tail:</b>	14.8	1.51	6.65	279.35	# of Men on Job:	3

Time (am/pm)	(BPM)	Volume (BBLs)	Pumps		Pressure (PSI)		Description of Operation and Materials
			T	C	Tubing	Casing	
23:30							ON LOC, SAFTEY MTG, R.U.
2:38						3400	TEST LINES
2:40 AM	4.2	12				380	PUMP MUD FLUSH
2:44 AM	4.2	5				380	H2O SPACER
2:47 AM							PLUG RAT AND MOUSE
2:56	7					590	START SCAVENGER @ 12#
3:01	7.5	20				300	START TAIL @ 14.8#
3:15 AM		50					SHUT DOWN, DROP PLUG, WASHUP
3:17	7.4					130	START DISPLACEMENT W/3%KCL
3:32	2.5	86				540	SLOW RATE
3:37		97.5				800-1660	PLUG DOWN
3:40						1660-0	RELEASE PSI, FLOAT HELD
							JOB COMPLETE
							THANK YOU FOR YOUR BUSINESS!!!

Size Hole	7 7/8	Depth				TYPE	
Size & Wt. Csg.	4 1/2 11.6	Depth	6336.98'	New / Used	BOTH	Packer	Depth
lbg.		Depth				Retainer	Depth
Top Plugs		Type				Perfs	CIBP

Customer Signature:  Basic Representative: CHAD HINZ  
 Basic Signature:   
 Date of Service: 8/11/2018

O'BRIEN ENERGY  
KEYSTONE 4-4





**O'Brien Energy Resources, Inc.**

**Keystone No. 4-4**

**Section 4, T33S, R29W**

Meade County, Kansas

June 2018

**Well Summary**

The O'Brien Energy Resources, Keystone No. 2-4 was drilled to a total depth of 6350' in the Spergen without any problems. It offset the Keystone No. 2-5 by approximately 1800' to the North. Formation tops came in high to this offset. The Heebner and Lansing came in 9' and 6' high. The Marmaton, Cherokee and Atoka ran 19' to 21' high. The Morrow came in 24' high. The Chester, Basal Chester and St. Louis came in 31', 27' and 23' high respectively.

The St. Louis pay zone looks similar to the pay zone that is producing in the Keystone No. 2-4. Dolomite(6112'-6116'): Dark to medium brown with oil staining and live oil, coarsely crystalline, sucrosic to granular, clean, occasionally argillaceous to marly in part, Chert noduals, good intercrystalline porosity, very oolitic and fossiliferous with interpartical and moldic porosity, excellent brown matrix oil stain, very dark goldbrown hydrocarbon fluorecence in all the Dolomite, excellent explosive cut, good oil odor. An excellent drill break was documented with an associated 124 Unit gas kick.

4 1/2" production casing was run to TD on 6/10/18.

Respectfully Submitted,

Peter Debenham

## WELL DATA

Operator: O'Brien Energy Resources, Inc., John Forma – Portsmouth, NH  
Geologist: Paul Wiemann – Denver, CO

Prospect Geologist: David Ward, Ed Schuett, Denver

Well: Keystone No. 4-4

API: 15-119-21421

Location: 2305' FSL & 445' FWL, Section 4, T33S, R29W, Meade County, Kansas  
– Southeast of Plains.

Elevation: Ground Level 2643', Kelly Bushing 2656'

Contractor: Duke Drilling Rig No. 9, Type: Double jackknife, double stand, Toolpusher  
Emidgio Rojas, Drillers: Victor Martinez, Alejandro V., Fernando Juroeb

Company Man: Dana Greathouse

Spud Date: 6/4/18

Total Depth: 6/9/18, Driller 6350', Logger 6350', Spergen Formation

Casing Program: 36 joints of 8 5/8", J-55, 24Lbs/ft, set at 1529' with 375 sacks A-Con(3%  
cc, 1/4 lb Floseal) and 150 sacks Class C tail. Plug down 4:45 am 6/5/18. 4  
1/2" production casing set to TD.

Mud Program: Winter Mud, engineer Drew Smith, Theran Hegwood. displaced 2602',  
Chem. gel/LCM.

Wellsite Consultant: Peter Debenham with mudlogging trailer, Call depth 3000', Box 350,  
Drake, CO 80515, 720/220-4860.

Samples: 30' to 5600', 20' to TD.

Electric Logs: Weatherford, engineer Bandar Bin Osfur, Array Induction, Compensated  
Neutron/Density, Microlog, Hi Res.

Status: 4 1/2" production casing run to TD on 6/10/2018.

**WELL CHRONOLOGY**

<b><u>DATE</u></b>	<b><u>DEPTH</u></b>	<b><u>FOOTAGE</u></b>	<b><u>RIG ACTIVITY</u></b>
5/31-6/4			Move to location and rig up rotary tools and service rig.
6/5	1540'	1540'	Spud in 12 1/4" surface hole(9:45 AM, 6/4) and drill to 1540' and circulate. Run and cement 36 joints of 8 5/8", J-55, 24Lbs/ft, set at 1529' with 375 sacks A-Con(3% cc, 1/4 lb Floseal) and 150 sacks Class C tail. Plug down 4:45 am 6/5/18.
6/6	2700'	1160'	Nipple up BOP and wait on cement. Drill plug and cement and 7 7/8" hole to 1658' and trip for Bit No. 3. Displace mud.
6/7	4170'	1470'	
6/8	5050'	880'	To 4993' and circulate and wiper trip 53 stands.
6/9	6050'	1000'	
6/10	6350'TD	300'	Circulate and wiper trip and trip out for logs and run Elogs. Run and cement 4 1/2" production casing to TD. Rig down.

**BIT RECORD**

<b><u>NO.</u></b>	<b><u>MAKE</u></b> <b><u>HOURS</u></b>	<b><u>TYPE</u></b>	<b><u>SIZE</u></b>	<b><u>OUT</u></b>	<b><u>FOOTAGE</u></b>		
1	But	MD516	12 1/4"	1340'	1340'	8 3/4	
2	But	F27IY	7 7/8"	1658'	118'	1 1/2	
3	PDC	Mi616	7 7/8"	6350'	4692'	73 1/2	
						Total Rotating Hours:	83 3/4
						Average:	75.82
						Ft/hr	

**DEVIATION RECORD - degree**

745' 1, 1540' 1, 2602' 1, 3611' ¾, 4617' ½, 5623' ½, 6350' ¾

**MUD PROPERTIES**

<b><u>DATE</u></b> <b><u>LBS/BBL</u></b>	<b><u>DEPTH</u></b>	<b><u>WT</u></b>	<b><u>VIS</u></b>	<b><u>PV</u></b>	<b><u>YP</u></b>	<b><u>pH</u></b>	<b><u>WL</u></b>	<b><u>CL</u></b>	<b><u>LCM-</u></b>
6/1	0'	8.3	Spud mud						
6/4	273'	9.1	37	11	9	9.0	nc	7K	4
6/5	1540'	8.4	26	1	2	10.5	nc	19K	--
6/6	2890'	8.7	70	13	32	8.5	18.8	7.5K	4
6/7	4697'	9.0	49	14	11	8.5	9.2	5K	4
6/8	5141'	9.2	60	14	14	9.5	10.2	5K	8
6/9	6224'	9.2	51	14	10	9.5	8.2	3.9K	6

**ELECTRIC LOG FORMATION TOPS- KB Elev. 2597'**

<b><u>FORMATION</u></b>	<b><u>DEPTH</u></b>	<b><u>DATUM</u></b>	<b><u>*Keystone No. 2-4</u></b> <b><u>DATUM</u></b>	<b><u>POSITION</u></b>
Casing	1529'			
Heebner	4424'	-1768'	-1777'	+9'
Toronto	4452'	-1796'	-1801'	+6'
Lansing	4572'	-1916'	-1919'	+3'
Marmaton	5192'	-2536'	-2557'	+21'
Cherokee	5362'	-2706'	-2725'	+19'
Atoka	5614'	-2958'	-2977'	+19'
Morrow	5668'	-3012'	-3036'	+24'
Mississippi Chester	5780'	-3124'	-3155'	+31'
Basal Chester	5972'	-3316'	-3343'	+27'
Ste. Genevieve	6011'	-3355'	-3374'	+19'
St. Louis	6108'	-3452'	-3475'	+23'
Spergen	6299'	-3643'	-3677'	+34'
TD	6350'			

\*O'Brien Energy Resources, Keystone No. 2-4, 500' FSL & 716' FWL, Section 4, 33 S, 29W – app. 1800' to the South, K.B. Elev. 2597'.